

Design Deliverables for Stormwater Facility Grants



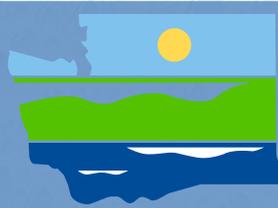
Design Deliverables for Stormwater Projects with Ecology Funding

This document details Ecology’s expectations of deliverables for Ecology funded stormwater projects.

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Douglas C. Howie, P.E.
July 14, 2021



Deliverables Reviewed by Ecology

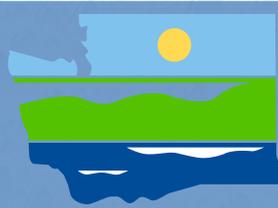
Design Report

90% Design Package

Bid Documents

Construction Quality Assurance Plan (CQAP)

Operations and Maintenance Plan



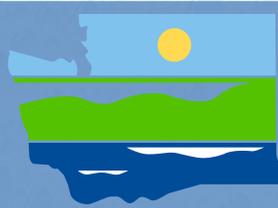
Design Report Review

Expected base
level of work

Ecology Review
timing

Acceptance vs
Approval

Acceptance
Letter



Design Report Review Focus

Meets Requirements of Manual(s)

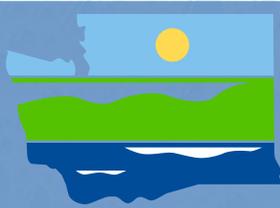
Matches project described in Application

Minimum Requirement/Core Element Determination

BMP selection and sizing

Equivalent Area Calculation

Eligible/Ineligible Costs



Design Report Contents

Basin and Project Description

Minimum Requirements/Core Element Analysis

Alternatives

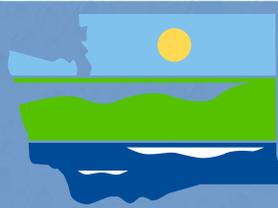
Design Analysis and calculations

Water Quality Benefit Calculation

Opinion of Construction Cost

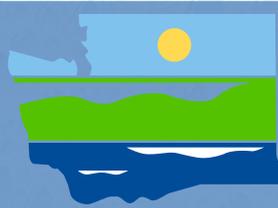
Schedule

Drawings



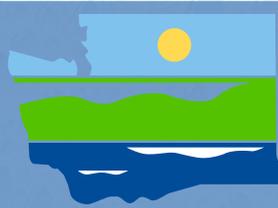
90% Design Package

- Expected base level of work
- Submittal Package
 - Construction Plans
 - Construction Specifications
 - No need to fill in dates
 - Include Ecology Inserts
 - Opinion of Construction Cost
 - Construction Schedule
 - Revised Water Quality Benefit Calculation



Bid Documents

- Ready to go out to bid next day
- Submittal Package (Not necessarily stamped)
 - Construction Plans
 - Construction Specifications
 - Opinion of Construction Cost
 - Construction Schedule
 - Revised Water Quality Benefit Calculation



Construction Quality Assurance Plan (CQAP)

SWPPP

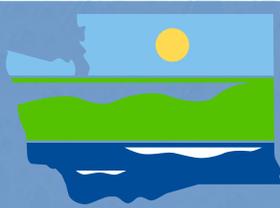
Field Testing

Change Orders

Submittal Reviews

Quality Control

Permits



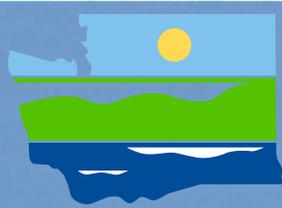
Operations and Maintenance Plan

Who will operate and manage the BMPs

Maintenance activities and schedule

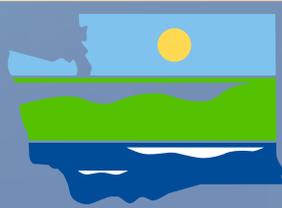
If publicly owned, how does this fit into the overall
O&M Plan

If private, who is responsible for maintenance



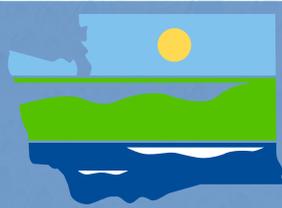
Water Quality Benefit Calculation

- Ecology needs to report how funds are used
- Standard for Comparison: How does retrofit work compared to what would be required for New Development?
- Get credit for portion of basin based on size of new installed BMPs.



Questions?





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